**Mid-Term Assignment/Paper (spring -2020)**

**Therapeutic exercises**

**DPT 4th semester**

**Instructor: Dr. M.Jaffar**

Time: 48-hours Max Marks: 30

 **Name:** Linta zakir

 **I.D:** 15347

**Q1**. Define Therapeutic Exercise? Discuss the aims of Therapeutic Exercise?

**A1. Therapeutic Exercise:** Therapeutic exercise is the systematic,planned performance of bodily movements performed by the skeletal muscles,which aims to improve and restore physical health.

 **Aims:**

1. Prevent disabilities.
2. Rehabilitate disabilities.
3. It improves overall health and fitness.
4. Helps to prevent health related risk factors.
	1. What is ROM? Why we use ROM?

**A:** **Range of motion:** range of motion is defined as the full movement potential of a joint.

Usually the range of flexion and extension of a joint.

**Or**

The measure of movement around a specific joint.

* **Significance of ROM exercises:**
1. It strengthen bones and cartilage.
2. Improve fitness level
3. Prepares the body for movement by warming up the joints.
4. It helps to keep the joint flexible.
5. It helps to reduce pain.
6. Improves balance and strength.

**Q2.**What is aquatic exercises? Discuss the properties of water and its clinical significance?

**A2: Aquatic exercise:** aquatic exercise is a low-impact activity that take pressure off your joints,bones and muscles.

* It improves range of motion.
* Provide relaxation.
* Facilitate weigh bearing activity.
* Water also offers natural resistance which can help strengthen you muscles.

**Properties of water:**

1. **Buoyancy:** it is an upward force that work opposite to gravity.

**Clinical significance:**

* + It helps in joint uploading and relative weightlessness.
	+ It allows the patient to perform active motion with increased ease.
	+ Three dimensional access to the patient.
1. **Hydrostatic pressure:** hydrostatic pressure is the pressure exerted on immersed object.

**Clinical significance:**

* It limits or reduces effusion.
* It centralize the peripheral blood flow.
* It helps to increase venous return to reduce the lower extremity swelling.
* It helps to stabilize the unstable joints.
1. **Viscosity:** the friction occurring between molecules of liquid resulting in resistance to flow is known as viscosity.

**Clinical significance:**

* It creates resistance with all active movements.
* Increasing the surface area moving through water increases resistance.
1. **Surface tension:** surface tension is the force of attraction between surface molecules of a fluid.

The surface of fluid act as membrane under tension.

**Clinical significance:**

* Resistance to movement is slightly greater on the surface of water because there is more cohesion on the surface of water.

**Q3.** Describe Maitland Joint Mobilization Grading based on amplitude of movement.

**A3. Maitland Joint mobilization Grading Scale:**

Grading based on amplitude of movement and where within available range og motion the force is applied.

1. **Grade 1:**
* Small amplitude rhythmic oscillation is given at the beginning of range of movement.
* It helps to manage pain and spasm.
1. **Grade 2:**
* Large amplitude rhythmic oscillation is given within midrange of movement,not reaching the limit.
* It also helps to manage pain and spasm.
1. **Grade 3:**
* Large amplitude rhythmic oscillation is given up to the point of limit of the available motion and are stressed into the tissue resistance.
* It’s used to gain motion within the joint.
* It stretches capsule.
1. **Grade 4:**
* Small amplitude rhythmic oscillation at very end range of movement.
* It’s also used to gain motion within the joint.
* Used when the movement is limited by resistance in the absence of pain.
1. **Grade 5: (Thrust technique) – (manipulation)**
* Small amplitude and quick thrust is given at the end of range.
* It’s accompanied by popping sound.
* It requires special training.